

REMARKS

Claims 1-3, following entry of the Amendment, are all the claims pending in the application. Claim 4 has been canceled. Independent claim 1 has amended to include the limitations of dependent claim 4.

Claims 1-2 and 4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Prior Art (hereinafter "APA") in view of Hiroshima et al. (U.S. Patent No. 5,174,013) (hereinafter "Hiroshima") and Harris et al. (U.S. Patent No. 5,539,265) (hereinafter "Harris '265"). Claim 3 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Hiroshima and Harris '265, and further in view of Harris et al. (U.S. Patent No. 5,892,313) (hereinafter "Harris '313").

FORMALITIES

The Examiner has objected to the specification as failing to provide antecedent basis for the claimed subject matter. Specifically, the Examiner states that the "specification" lacks a "statement" of a square (perpendicular) relationship between surfaces of a winding and an axis of a bobbin. *See* claim 4. Applicant submits that although there is not verbatim language or statement found in the specification, there is, however, support for the limitation in Applicant's Figures 1-5 and page 8, first full paragraph, for example.

Accordingly, Applicant respectfully requests the Examiner to withdraw the objection to the specification.

PRIOR ART REJECTIONS

The Examiner has rejected claims 1-2 and 4 under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Hiroshima and Harris '265. Applicant respectfully traverses the rejection.

Neither APA nor Hiroshima teach or suggest Applicant's claimed "starting portion of said field winding," as now required by independent claim 1,¹ notwithstanding the Examiner's assertion that APA discloses "a starting portion of said field winding is housed in said recessed groove so as to make said opposite flat surfaces square with an axis of said bobbin." The starting portion of the field winding 15 of APA is formed to have a circular cross-section. The starting portion of the wire 3 of Hiroshima is also formed to have a circular cross-section. *See* column 3, lines 25-27.

The starting portion of the field winding of claim 1, on the other hand, is formed to have a rectangular cross-section. Since the starting portion of the field winding 20 does not protrude into the field winding mounting portion, the area of the field winding mounting portion is widened. Moreover, since the depth of the recessed groove can be reduced, the thickness of the flanges of the bobbin can be thinned, thereby enabling the area of the field winding mounting portion to be widened. Thus, the number of turns of the field winding wound onto the field winding mounting portion can be increased, such that a high output is obtained.

¹The limitations of dependent claim 4 have been incorporated into independent claim 1.

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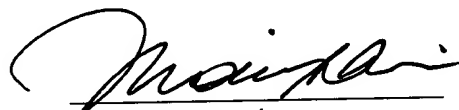
Based on the foregoing, it is submitted that independent claim 1 patentably distinguishes over these references. Dependent claim 2 is dependent upon independent claim 1, and should be allowed for at least the same reasons discussed above with respect to claim 1.

The Examiner has rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Hiroshima and Harris '265, and further in view of Harris '313. Dependent claim 3 is dependent upon independent claim 1, and should be allowed for at least the same reasons discussed above with respect to claim 1.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 4 is canceled.

Claim 1 is amended as follows:

1. (Five times Amended) A rotor for an automotive alternator comprising:
a pair of field cores each having a cylindrical base portion and a plurality of claw-shaped magnetic poles projecting from outer circumferential edges of said base portions, said field cores are secured to a rotating shaft facing each other wherein end surfaces of said base portions are in close contact with each other and said claw-shaped magnetic poles intermesh with each other;

a cylindrical bobbin having a cylindrical portion and a pair of first and second annular flange portions projecting perpendicularly from both ends of said cylindrical portion, said bobbin being fitted over said base portions of said pair of field cores; ~~and~~

a field winding wound a predetermined number of turns into multiple layers on said cylindrical portion of said bobbin of said rotor; and

a recessed groove formed in an inner surface of said first annular flange portion from an outer circumferential end of said first annular flange portion to an inner circumferential end thereof,

wherein said field winding has a flat rectangular shape in which a pair of opposite flat surfaces are parallel,

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said field winding is wound onto said cylindrical portion of said bobbin wherein said pair of opposite flat surfaces face the inner circumferential side and the outer circumferential side, respectively, relative to a radial direction of said cylindrical portion, ~~and~~

said bobbin is formed to have a field winding mounting portion in which a radial length thereof is shorter than an axial length thereof, and

a starting portion of said field winding is housed in said recessed groove so as to make said opposite flat surfaces square with an axis of said bobbin.